

REMARKS

In the Office Action, the Examiner rejected claims 48-77. Applicants canceled claims 1-47 in a previous communication. For at least the reasons set forth below, however, Applicants respectfully submit that all of pending claims 48-77 are allowable in their present form. Applicants respectfully request reconsideration of the above-referenced application in view of the following remarks.

Rejections under 35 U.S.C. § 102

In the Office Action, the Examiner rejected claims 48 and 58 under 35 U.S.C. § 102(b) as anticipated by Cook, II (U.S. Patent No. 5,687,066). Applicants respectfully traverse this rejection.

Legal Precedent

Anticipation under Section 102 can be found only if a single reference shows exactly what is claimed. *Titanium Metals Corp. v. Banner*, 227 U.S.P.Q. 773 (Fed. Cir. 1985). For a prior art reference to anticipate under Section 102, every element of the claimed invention must be identically shown in a single reference. *In re Bond*, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). Moreover, the prior art reference also must show the identical invention “in as complete detail as contained in the ... claim” to support a *prima facie* case of anticipation. *Richardson v. Suzuki Motor Co.*, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989) (emphasis added). Accordingly, Applicants need only point to a single element not found in the cited reference to demonstrate that the cited reference fails to anticipate the claimed subject matter.

Applicants also respectfully remind the Examiner that, during patent examination, the pending claims must be given an interpretation that is *reasonable* and *consistent* with the specification. See *In re Prater*, 162 U.S.P.Q. 541, 550-51 (C.C.P.A. 1969); see also *In re Morris*, 44 U.S.P.Q.2d 1023, 1027-28 (Fed. Cir. 1997); see also Manual of Patent Examining Procedure §§ 608.01(o) and 2111. Moreover, any interpretation of the claims

must also be consistent with the interpretation that those skilled in the art would reach. *See In re Cortright*, 49 U.S.P.Q.2d 1464, 1468 (Fed. Cir. 1999); *see also* Manual of Patent Examining Procedure § 2111. As further explained in Section 2111.01 of the Manual of Patent Examining Procedure, the words of the claim must be given their plain meaning unless the applicant has provided a clear definition in the specification. *See In re Zletz*, 893 F.2d 319, 321, 13 U.S.P.Q.2d 1320, 1322 (Fed. Cir. 1989). Again, the plain meaning refers to an interpretation by those of ordinary skill in the art. *See In re Sneed*, 710 F.2d 1544, 218 U.S.P.Q. 385 (Fed. Cir. 1983).

Omitted Features of Independent Claims 48 and 58

Turning now to the present claims, the Cook reference fails to disclose each element of independent claims 48 and 58. For instance, independent claims 48 and 58 each recite a converter having “a support including a passage for circulation of a cooling medium and a power electronic switching circuit mounted on the support,” in addition to “a housing at least partially surrounding the converter.” Independent claim 58 also recites “at least one plug-in connector coupled to the switching circuit and to the housing for ... extending EMI shielding from the housing to a region at least partially surrounding conductors of the at least one connector.” Because the Cook reference fails to disclose such elements, the cited reference fails to anticipate independent claims 48 and 58.

As will be appreciated, the Cook reference is generally directed to a power converter for providing DC power to a recreational vehicle. Col. 1, lines 13-16. The Cook converter 10 includes a switched power converter circuit 20 mounted on a circuit board 22. Col. 4, lines 47-50; FIG. 3. The circuit board 22 is disposed within a housing 18 that is generally composed of a top wall 24, end walls 26 and 30, front wall 28, bottom wall 29, and back wall 31. Col. 4, line 47 – col. 5, line 1; FIGS. 2-5. The housing 18 also includes certain cooling features for dissipating heat from the converter, such as apertures 48 and cooling fins 50, and mounting feet 60 and 62 to facilitate mounting of the converter 10 to a recreational vehicle. Col. 4, line 47 – col. 5, line 11; col. 5, lines 23-28;

FIGS. 2 and 4. The converter 10 further includes a fan housing 52 and associated fan 54 that forces cooling air across components of the switched power converter circuit 20 inside the housing 18. Col. 5, lines 12-15; FIGS. 3 and 5. The air moved by fan 54 exits the housing 18 through the apertures 48 provided in the housing. Col. 5, lines 15-16. The converter 10 also includes an output block 16 that contains DC outputs 32 and 34 of the switched power converter circuit 20. Col. 5, lines 3-5; FIGS. 3 and 4.

As noted above, independent claims 48 and 58 recite a converter having “a support including a passage for circulation of a cooling medium and a power electronic switching circuit mounted on the support,” as well as “a housing at least partially surrounding the converter.” In the Office Action, the Examiner equated an end wall 26 of the housing 18, and mounting feet 60 and 62 of the housing 18, with the recited *support* (instead of the housing), suggesting that apertures 48 in the end wall 26 are comparable to the recited cooling passage of the support. *See* Office Action mailed November 16, 2006, page 2. Applicants respectfully submit that the Examiner’s characterization of the end wall 26 as a “support” stretches the definition of the word “support” well beyond its normal usage, improperly equates the wall 26 of the housing 18 as a support, and cannot be sustained. Rather, as would be appreciated by one skilled in the art, the end wall 26 is part of the *housing* 18. In turn, the housing 18 (including end wall 26) is clearly more analogous to the “housing at least partially surrounding the converter” element of the instant claims. Consequently, the Examiner, at best, has identified a *housing* 18, 26 having apertures 48 to facilitate air flow through the housing 18, 26, and has failed to identify any structure in the Cook reference that can be logically equated with the presently claimed “support including a passage for circulation of a cooling medium.” For at least this reason, the instant rejection is clearly erroneous.

Further, despite the Examiner’s overly-broad construction of the word “support,” which ignores the structural relationship between the support and the housing, the Cook reference still fails to disclose the “support including ... a power electronic switching

circuit *mounted on the support*” (emphasis added) element of the instant claims. In the Office Action, the Examiner identified the switched power converter circuit 20 as analogous to the power electronic switching circuit in the instant claims. *Id.* Therefore, according to the Examiner’s construction of the word “support,” the switched power converter circuit 20 would have to be mounted on the end wall 26 in order to support the Examiner’s assertion. However, it is clear from the Cook reference that the switched power converter circuit 20 is not, in fact, mounted on the end wall 26. Instead, the power converter circuit 20 is mounted on the circuit board 22 at the base of the housing 18. *See* col. 4, lines 47-50; FIG. 3. For at least this reason, Applicants respectfully submit that the end wall 26 cannot be logically equated with the recited “support” and, accordingly, that the Cook reference fails to disclose each and every element of independent claims 48 and 58. Consequently, the Cook reference fails to anticipate independent claims 48 and 58.

The Examiner has attempted to overcome this deficiency by pointing out that the word “on” is defined in at least one dictionary as “to be attached or unified with.” *See* Office Action mailed November 16, 2006, page 11. Applicants respectfully point out that the ultimate question in this regard is how one of ordinary skill in the art would interpret the element “power electronic switching circuit mounted *on* the support” when read in context, and that it is unlikely that one skilled in the art would even need to resort to extrinsic evidence, such as dictionaries, rather than intrinsic evidence and common meaning of these terms in the art, to interpret this element. Again, for at least the reasons noted above, Applicants respectfully point that one skilled in the art would consider the end wall 26 of the Cook reference to be part of the housing 18 (just as described by Cook himself), and not part of the converter itself. Additionally, the Examiner’s interpretation of “mounted on” is significantly broader than that which would be reached by one skilled in the art, is inconsistent with the present specification, and, therefore, is not reasonable.

By way of analogy, it may be helpful to consider a room in a building, such as a bedroom of a house. In many such bedrooms, a ceiling fan may be mounted on the

ceiling, and a picture frame may be mounted on a side wall as a decorative touch. Applicants respectfully note that “mounted on” has an ordinary meaning in common parlance, and that, even though various surfaces of the room may be connected to one another, any reasonable person would not suggest that a ceiling fan mounted on the ceiling is also “mounted on the floor,” or that a picture frame mounted at eye-level on a side wall is also “mounted on the ceiling.” It is readily apparent that such a construction would stretch the meaning of “mounted on” beyond all reasonable limits, yet this is precisely what the Examiner has done in the present case. The Examiner’s rationale appears to be that, because the converter circuit 20 of Cook is mounted on a circuit board 22, and the circuit board 22 is disposed within the housing 18, the converter circuit 20 must necessarily be mounted on a side wall 26 of the housing 18. This reasoning is demonstrably flawed, as evident from the bedroom analogy above. Just as a ceiling fan mounted on the ceiling cannot be reasonably considered to be “mounted on the floor,” and a picture frame mounted on a side wall cannot be reasonably considered to be “mounted on the ceiling,” the converter circuit 20 cannot be reasonably considered to be “mounted on” the wall 26 of the housing 18.

Additionally, with respect to independent claim 58, Applicants respectfully submit that the Cook reference fails to teach “at least one plug-in connector coupled to the switching circuit and to the housing for ... *extending EMI shielding from the housing to a region at least partially surrounding conductors of the at least one connector*” (emphasis added). In the Office Action, the Examiner equated a cable 14 and DC output block 16 of the Cook converter with the recited “at least one plug-in connector.” See Office Action mailed November 16, 2006, page 2. However, it appears that the Cook reference fails to suggest that the DC output block 16 is even capable of providing EMI shielding. In fact, the reference appears to be entirely silent with respect to electromagnetic interference proximate to the DC output block 16. Still further, the rejection of claim 58 set forth in the Office Action *fails to even address this claim recitation*. For these reasons, Applicants respectfully submit that the Cook reference also fails to disclose any structure that can be reasonably

compared to “at least one plug-in connector coupled to the switching circuit and to the housing for ... extending EMI shielding from the housing to a region at least partially surrounding conductors of the at least one connector,” as recited in independent claim 58. Accordingly, independent claim 58 cannot be anticipated by the Cook reference.

For at least these reasons, Applicants respectfully request withdrawal of the rejection under 35 U.S.C. § 102 and allowance of claims 48 and 58.

Rejections under 35 U.S.C. § 103

In the Office Action, the Examiner rejected independent claim 68 under 35 U.S.C. § 103(a) as unpatentable over Cook in view of Verma (U.S. Patent No. 5,872,332). The Examiner also rejected claims 49-57, 59-67, and 69-77 under 35 U.S.C. § 103(a) as unpatentable over Cook in view of one of Nigorikawa (U.S. Patent No. 4,628,412), Sanger et al. (U.S. Patent No. 6,016,007), and Verma, alternatively. Applicants respectfully traverse these rejections.

Legal Precedent

The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (PTO Bd. App. 1979). Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). Accordingly, to establish a *prima facie* case, the Examiner must not only show that the combination includes *all* of the claimed elements, but also a convincing line of reason as to why one of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the references. *Ex parte Clapp*, 227 U.S.P.Q. 972 (B.P.A.I. 1985). When prior art references require a selected combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gained from the invention itself, i.e.,

something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination. *Uniroyal Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 U.S.P.Q.2d 1434 (Fed. Cir. 1988).

Omitted Features of Independent Claim 68

Applicants respectfully note that the Cook reference fails to disclose each element of independent claim 68 for at least the same reasons provided above regarding independent claims 48 and 58. For instance, independent claim 68 recites a converter having “a support including a passage for circulation of a cooling medium and a power electronic switching circuit mounted on the support.” As noted above, the Cook reference fails to disclose such a support, and the Verma reference fails to obviate this deficiency. For at least this reason, the cited references fail to disclose each element of the present claims and, consequently, fail to establish a *prima facie* case of obviousness with respect to independent claim 68.

Further, independent claim 68 also recites at least one plug-in connector and a connector plug, “wherein the at least one plug-in connector and the connector plug mate to extend EMI shielding from the housing to the connector plug.” In the Office Action, the Examiner acknowledges that the Cook reference fails to disclose this element. *See* Office Action mailed November 16, 2006, page 3. In an attempt to overcome this deficiency, the Examiner relies on the Verma reference, equating the connector shroud 34 of the reference with the presently recited connector plug. *See* col. 2, lines 10-12; FIG. 1. Specifically, the Examiner stated “it appears in figure 1 that connector 34 is capable to mate and it is also extend EMI shielding from the housing” (errors in original). *See* Office Action mailed November 16, 2006, pages 3-4. Applicants, however, respectfully point out that the only discussion of EMI shielding in the Verma reference is with respect to an internal *metal* shield 16 disposed within a housing 10 of the Verma device. Conversely, the connector shroud 34 of the Verma reference is formed of a *molded polymer*, and nothing in the reference teaches, suggests, or even hints at any EMI shielding properties of the connector

shroud 34. As such, Applicants do not believe that the Verma reference supports the Examiner's assertion regarding the EMI shielding recitation of the instant claim. Consequently, as neither the Cook reference nor the Verma reference teaches this feature, a *prima facie* case of obviousness with respect to claim 68 has not been established. Accordingly, Applicants respectfully request that the Examiner either withdraw the present rejection or provide some supportable rationale for the rejection in a future, non-final Office Action such that Applicants have a fair and reasonable opportunity to respond to the newly provided rationale.

Deficiencies of the Rejections of the Dependent Claims

Applicants further note that each of claims 49-57, 59-67, and 69-77 depends from one of independent claims 48, 58, and 68. As discussed above, the Cook reference fails to disclose each element of independent claims 48, 58, and 68. Furthermore, the Nigorikawa, Sanger et al., and Verma references fail to obviate the deficiencies of the Cook reference with respect to independent claims 48, 58, and 68. As a result, dependent claims 49-57, 59-67, and 69-77 are believed allowable on the basis of their dependency from respective allowable independent claims, as well as for the subject matter separately recited in these dependent claims.

For at least these reasons, Applicants respectfully request withdrawal of the rejections under 35 U.S.C. § 103 and allowance of claims 49-57 and 59-77.

Conclusion

In view of the remarks set forth above, Applicants respectfully request allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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